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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DANIELSEN, NATHAN ANDREW

ART UNIT

PAPER NUMBER

2627

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/618,705	Applicant(s) KATO ET AL.	
	Examiner Nathan Danielsen	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-13 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 8-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/28/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-4 and 6-13 are pending. Claims 3 and 8-13 have been withdrawn in response to applicant's election filed 08 January 2007. Claim 5 has been canceled in applicant's amendment filed 14 August 2007.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 2, 4, 6, and 7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claims 1 and 7, the phrase "and/or" renders the claim indefinite because it is unclear whether applicant intends to claim an overshoot, an undershoot, or both an overshoot and an undershoot. Claims 2, 4, and 6 are rejected as being dependent on an indefinite claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (hereinafter the AAPA), in view of Okazaki et al (US Patent Application Publication 2002/0105747; Okazaki).

Regarding claims 1 and 7, the AAPA discloses an information recording apparatus (and associated information recording method) comprising:

a light source which emits a recording light for information recording (page 1, lines 10-25);

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a recording waveform data generating unit which generates recording waveform data which is predetermined digital data corresponding to an input recording signal (page 1, lines 10-25);

a D/A converting unit which D/A-converts the recording waveform data to generate a driving pulse signal (inherent in page 1, line 10 through page 2, line 3); and

a driving unit which drives the light source to emit the recording light based on the driving pulse signal (page 1, line 10 through page 2, line 3).

However, the AAPA fails to disclose where:

the recording waveform data is determined in accordance with characteristics of the light source, the driving unit and a combination thereof,

the recording waveform data includes a level for suppressing an overshoot and/or an undershoot at a position corresponding to a position at which a waveform of the recording light emitted from the light source forms the overshoot and/or the undershoot so that the recording waveform signal data is corrected to suppress the overshoot and/or the undershoot at the position at which the light waveform emitted by the light source has the overshoot and/or undershoot.

In the same field of endeavor, Okazaki discloses where:

the recording waveform data is determined in accordance with characteristics of the light source, the driving unit and a combination thereof (§s 3, 11, 34, and 50),

the recording waveform data includes a level for suppressing an overshoot and/or an undershoot at a position corresponding to a position at which a waveform of the recording light emitted from the light source forms the overshoot and/or the undershoot so that the recording waveform signal data is corrected to suppress the overshoot and/or the undershoot at the position at which the light waveform emitted by the light source has the overshoot and/or undershoot (§s 34 and 50 and figure 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of the AAPA with the circuitry and functionality of Okazaki, for

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the purpose of minimizing the write time and overshoot period by controlling the rise and fall of a write current (¶ 14).

7. Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA, in view of Okazaki, and further in view of Seo (European Patent Application Publication 1 061 509).

Regarding claims 2 and 4, the AAPA, in view of Okazaki, discloses everything claimed, as applied to claim 1. However, the AAPA, in view of Okazaki, fails to disclose the details of the recording waveform data generating unit or the functionality thereof.

In the same field of endeavor, Seo discloses where the recording waveform data generating unit comprises:

- a unit which generates a recording strategy signal based on the recording signal and strategy information (¶ 123);

- a storing unit which stores predetermined waveform data determined in accordance with the characteristics of the light source, the driving unit and the combination thereof, for pulse waveforms of plural pulse widths (power table storing units 504 and 508 and ¶ 123); and

- a generating unit which obtains the waveform data corresponding to the pulse waveform forming the strategy signal from the storing unit and generates the recording waveform data (¶s 119-123),

wherein the storing unit stores the waveform data for each of a recording power which is a power of a recording light emitted from the light source in recording, and the generating unit refers to the storing unit according to a recording power to be utilized and generates the recording waveform data (¶s 102-106).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of the AAPA with that of Seo for the purpose of enabling accurate recording control by updating the light output control data for the power setting values as the output characteristics of a laser diode change (¶ 131).

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8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA, in view of Okazaki, and further in view of Masaki et al (US Patent 5,732,055; hereinafter Masaki).

Regarding claim 6, the AAPA, in view of Okazaki, discloses everything claimed, as applied to claim 1. However, Kabayama fails to disclose means for compensating for level tilt.

In the same field of endeavor, Masaki discloses where the recording waveform data has a level for canceling a level tilt in a case that a waveform of a recording light emitted from the light source has the level tilt (col. 26, lines 16-46).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the apparatus of the AAPA, in view of Okazaki, with that of Masaki, for the purpose of efficiently performing a light emission adjustment without exerting a burden on a laser diode (col. 2, lines 59-62).

Response to Arguments

9. Applicant's arguments, see pages 11-13, filed 14 August 2007, with respect to the rejection(s) of claim(s) 1 and 7 under 35 USC § 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the AAPA, in view of Okazaki, Seo, and Masaki.

Citation of Relevant Prior Art

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Koenig et al (US Patent 6,381,086) disclose an apparatus for controlling the magnitude of overshoot and undershoot current while recording data.

Closing Remarks/Comments

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Danielsen whose telephone number is (571)272-4248. The examiner can normally be reached on Monday-Friday, 9:00 AM - 5:00 PM Eastern Time.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/
Supervisory Patent Examiner, Art Unit
2627

Nathan Danielsen
04/03/2008